ON A COLLECTION OF MOTHS OF THE FAMILY GEOMETRIDÆ FROM UPPER BURMA MADE BY CAPTAIN A. E. SWANN

Louis B. Prout, f.e.s.

PART III

(Continued from page 322 of this Volume.)

* 139. Asthena lassa, sp. n.

J, 24 mm. Near A. anseraria, H.-Sch. (Syst. Bearb., vi. 134, Fig. 560), of the Palæarctic Region. Face of a more uniform brown. Antennal ciliation shorter.

Forewing with the brown lines fainter, rather thinner less macular, less deeply sinuous, the sub-basal and postmedian vaguely double, the distal postmedian terminating in a small blackish dot on hindmargin; minuter dots at hinder end of distal subbasal and of antemedian.

Hindwing with termen slightly smoother than in anseraria; cell-dot minute or obsolete; lines feeble, rather thin, less deeply sinuous than in anseraria.

Underside similar to that of anseraria.

Htawgaw, April-May 1923 (type), June 1923 and August to September 1923, (paratypes).

140. Pseudostegania plurilinearia (Moore.)

Somatina plurilinearia Moore, Proc. Zool. Soc. Lond., p. 645 (1867) (Darjiling).

Htawgaw, April-May 1923, 12; Hpimaw Fort, June 1923, 666, 322, 14-18 August 1923, 16, 12; Laukhaung, October 6, 1923, 16.

Distributed throughout the Himalayas, though rarer westward. Hampson sinks unistirpis, Butl., from Japan and Central China, which is at least racially separable. I believe the similar forms from West China are a race of the closely allied denigrata, Warr. (Nov. Zool. iii. 316), but I have not yet studied the group very closely.

* 141. Poecilasthena burmensis, sp. n. (Pl. I, Fig. 4)

3, 26 mm. Extremely like thalassias, Meyr. (Proc. Linn. Soc. N. Sth. Wales

(2) v. 813), from Australia. Antennal ciliation less minute.

Forewing with apex slightly more acute, termen slightly more oblique and less curved; SC⁵ stalked with SC²⁻⁴ considerably beyond apex of outer areole (in all the thalassias which I have examined from or close about the apex, but variation is frequent in these details); the white ground-colour less densely irrorated with sea-green (in *thalassias* generally justifying Meyrick's assumption of this as the ground-colour); the group of green lines which forms the postmedian slightly more oblique and more solidified into a band; termen with some black-grey irroration which suggests a weak line, interrupted by white dots at and midway between the veins Hindwing perhaps slightly narrower than in thalassias, the bend in midtermen rather more pronounced; groundcolour and terminal line as on forewing.

Htawgaw, June 1923, the type only.

A very unlooked-for discovery, adding to the problem of the geographical range of the genus; apart from its headquarters (South Moluccas, New Guinea, Australia and New Zealand) I had previously only seen a few examples from the Malay Peninsula (thalassias), where I assumed them to be an accidental importation, but this is clearly almost impossible for a remote fastness like Htawgaw.

* 142. Autallacta subobliquaria (Moore.)

Timanda subobliquaria, Moore, Proc. Zool. Soc. Lond., p. 644 (1867)

(Bengal).

Htawgaw, April-May, 1923, 1 &, 2 PP; Hparè, September, 1923, 1 PP; Hpimaw Fort, June 1923, 9 &, 3 PP, July, 1923, 1 A, August 1923, 2 &, 1 PP. A common Sikkim species, but I think not previously recorded elsewhere.

143. Hydrelia bicolorata (Moore.)

Hyria bicolorata, Moore, Proc. Zool. Soc. Lond., p. 642 (1867) (Bengal). Htawgaw, April-May, 1923, 1 ♂.

* 144. Hydrelia rufinota, Hmpsn.

Hydrelia rufinota, Hmpsn., Faun. Ind. Moths, iv. 560 (1896) (Sikkim). Htawgaw, April-May, 1923, 1 ♀; Hpimaw Fort, June 1923, 1 ♂, 9-13 August, 1923, 2 ♂♂.

* 145. Hydrelia opedogramma, sp. n. (Pl. I, Fig. 5.)

3, 21 mm. Head and body white, the upper part of face suffused with brown. Antenna with minute ciliation. Femora and tarsi predominantly brown.

Forewing white, rather glossy; costal edge narrowly brown; some brownish suffusion between this and SC in median area, becoming much stronger in distal area; lines brown, very characteristically arranged, not at all dentate; a group of three proximally, acutely angulated about cell-fold, obsolescent anteriorly; a strong, almost straight postmedian pair; a broad subterminal and narrow terminal, meeting at both extremities, the intervening white line very slightly interrupted by feeble brownish shading on the veins; fringe brown. Hindwing with termen slightly flexuous; white; a fine straight median brown line, crossing DC at origin of R²; a slightly thicker but not very sharp postmedian; subterminal and terminal a little thinner than on forewing.

Forewing beneath with the brown darker and more extended, embracing the entire costal area and entire cell, with some suffusion behind cell, and thickening all the lines, the postmedian pair becoming confluent, the terminal pair subconfluent. Hindwing with the lines—except the terminal—rather

thicker and stronger than above.

Hpimaw Fort, June 1923, the type only.

* 146. Hydrelia enisaria, sp. n. (Pl. I, Fig. 23)

3, 20 mm. Face blackish fuscous. Antenna with ciliation minute (less than ½). Thorax above dark fuscous; beneath, with abdomen, grey, in-

definitely dark-marked.

Forewing broad, termen not very oblique; areole rather narrow, S.C.^{1.5.2.3.4} stalked well beyond it; whitish grey; basal area fuscous, traversed by indistinct darkest lines; a very narrow, waved, dark-edged line of the ground-colour between this and the median band; median band rather broad, with blunt distal lobe in middle, fuscous (in parts with brighter brown shading), traversed by wavy darker lines and containing a large black cell-dot; band beyond rather broad, traversed by a weak fuscous line; subterminal bounded by fuscous lines or narrow shades; terminal line interrupted at veins; fringe weakly mottled. Hindwing with R³-M¹ stalked; whitish grey, cleanest in the double outer band and at termen; cell-dot black, conspicuous; a faint wavy line just beyond, most observable posteriorly; postmedian line wavy, slightly dotted on the veins and ending in a black dot at abdominal margin; outer area much as on forewing.

Forewing beneath smoky, with the double outer band and terminal band indistinctly paler; hindwing nearly as above, but slightly weaker-marked.

Htawgaw, June 1923, the type only.

Near *nisaria* Christ. (*Bull. Mosc.*, iv (2), 49) from S. E. Siberia, Corea and Japan, possibly a race; slightly broader-winged, cell-dots stronger, forewing in median area and on underside darker, antennal ciliation perhaps slightly less vestigial.

* 147. Discoloxia purpuraria (Hmpsn.)

Hydrelia purpuraria, Hmpsn., Faun. Ind. Molhs, iii. 413 (1895) (Nagas). Htawgaw, March, 1923, 1 ζ, June, 1923. 1 ζ, 1 ♀, July, 1923, 1 ζ, 1 ♀, August 1923, 1 ζ; Hpimaw Fort, June 1923, 1 ζ, August 1923, 1 ζ, 9–13 August 1923, 1 ζ, 2 ♀, 14–18 August 1923, 3 ζζ.

Slightly variable in size and tone, perhaps on an average larger and slightly more purple-grey (less purple-red) than Hampson's type. An interesting

contribution to a little known species.

* 148. Discoloxia nigrifurca, sp. n.

ሪ ዩ, 27 mm. Face blackish grey. Palpus very short and slender; dark grey. Antennal joints scarcely so strongly projecting as in obliquisigna, Moore (Leb. Coll. Atk., p. 278); ciliation about 1. Vertex, thorax and abdomen whitish grey, with slight irroration, the middle of thorax above slightly darker. Foreand midleg partly infuscated, with the ends of tibia and of tarsal joints remain-

ing whitish.

Forewing with Dc2 less oblique than in obliquisigna, Dc3 bending to become very oblique; whitish grey, with a slight lilacine tinge, the irroration faint; a number of shadowy brownish waved lines; a rather more distinct, slightly curved line bounding the small basal area; a black line from costa, along Dc² and Dc³ to hinder angle of cell, throwing off, at the bend of Dc³, a proximal furcation of rather variable length and intensity, but always obsolete posteriorly, or there represented by mere vein-dots, so that the black marks produce an inverted Y with short arms; postmedian line black, shaped much as in *lilacina*, Warr. (*Proc. Zool. Soc. Lond.*, 1893, p. 364, Pl. xxxii, Fig. 4), curving to run obliquely outward to hindmargin, thick from costa to M¹, very fine and slightly interrupted posteriorly; a warm brown line close beyond the nectuation and charge its extracture. warm brown line close beyond the postmedian and sharing its structure; some smoky shading beyond in anterior half of wing, traversed by a thick, ill-defined darker line; distal area again of the ground-colour; a dark terminal line, interrupted at the veins; fringe pale. Hindwing impure white, in distal half with indistinct grey lines, best marked on the veins; the true postmedian the strongest, with a slight outward projection about M1 and inward bend to M2; terminal line as on forewing or scarcely so strong.

Underside with forewing suffused, hindwing whitish; both with a cell-spot and postmedian line and some other weaker lines, or at least the two sub-

terminals; terminal line rather weaker than above.

Hpimaw Fort, June 1923, 3 & (including the type), 9-13 August, 1923, 1 &, 14-18 August, 1923, 1 &, 1 \,2.

* 149. Leptostegna asiatica (Warr.)

Dyspteris asiatica, Warr., Proc. Zool. Soc. Lond., p. 358, Pl. xxxi, Fig. 8 (1893) (Sikkim).

Htawgaw, early July 1923, 1 Q, August 1923, 2 & . This species, although rare, seems to range from Sikkim to the mountains of West China. Hampson has erroneously sunk it to its Amurland congener tenerata Christ.

150. Acasis viretata (Hb.)

Geometra viretata, Hb., Samml. Eur. Schmett., Geom. t. 44, Fig. 230 (1798) (Europe).

Htawgaw, April-May 1923, 2 od; Hpimaw Fort, August 1923, 2 dd.

The North Indian form has not yet, and the North American (viridata, Pack.) scarcely proved separable from the very widely distributed Palæarctic viretata. Even Capt. Swann's dates-though this is probably more coincidence-are exactly those at which British collectors would seek the two broods.

* 151. Phthonoloba decussata (Moore.)

Sauris decussata, Moore, Proc. Zool. Soc. Lond., p. 655, Pl. xxxiii, Fig. 10 (1867) (Bengal).

Htawgaw, April May 1923, 1 &.

Only previously known to me from Sikkim, Assam and Formosa, the latter apparently a differentiable race; Schultze (Philipp. Journ. Sci., D, v. 176) adds Negros. Hampson's South Indian records belong to a separate species which I have described elsewhere (Nov. Zool., xxxii. 43).

152. Sauris fasciata (Moore.)

Remodes fasciata, Moore, Lep. Coll. Atk., p. 270 (1888) (Assam).

Htawgaw, August-September 1923, 1 d.

The specimen is wasted, but apparently agrees perfectly with this species, the only Indian one yet known of the subgenus (? genus) Steirophora, Warr.; olivacea, Warr. and normis, Hmpsn., both sink to fasciata. Range: Sikkim to the mountains of Selangor.

* 153. Sauris usta (Warr.) (?)

Holorista usta, Warr., Nov. Zool. ii. 106 (1895) (Perak).

Hpimaw Fort, August 1923, 1 d.

Probably a new race of this species, but not in very fresh condition.

154. Sauris ignobilis, Butl.

Sauris ignobilis, Butl., Ann. Mag. Nat. Hist. (5), vi. 227 (1880) (Darjiling) Laukhaung, April-May 1923, 1 3.

Subfam. Geometrinæ

155. Ourapteryx ebuleata Guen.

Urapteryx ebuleata, Guen., Spec. Gén. Lep. ix. 32 (1858) (Kashmir). Urapteryx kantalaria, Feld., Reise Novara, Lep. Het. ii., t. cxxii., Fig. 3 (1875) (N.-W. Himalayas).

Laukhaung, April-May 1923, 1 &, July 1923, 2 &&; Kangfang, June 1923,

1 3; Hpimaw Fort, June 1923, 1 3.
Probably confined to the Himalayas and their outliers (best known from Kashmir), but a group of closely similar forms awaits revision.

156. Ourapteryx multistrigaria Walk.

Urapteryx multistrigaria, Walk., List. Lep. Ins. xxxv, 1535 (1866) (N. Hindostan).

Fenshulling Pass (four miles from), early July 1923, 1 d, 1 \(\text{\text{2}}. \)

This species, which differs from the preceding in its brown (not white) face, creamier wings, etc., is likewise best known from the Himalayas, but I believe occurs also in China and even Formosa.

157. Myrteta ocernaria Swinh.

Myrteta ocernaria Swinh., Ann. Mag. Nat. Hist. (6) xii. 152 (1893) (Khasis).

Shingaw, Hka Valley, January 13, 1923, 1 d.

A widely distributed Indo-Australian species. Probably the forms from the Moluccas and New Guinea may prove differentiable, but as far as Borneo and Pulo Laut there is very little observable modification.

*158. Myrteta icuncula, sp. n.

3, 38 mm. Evidently very near moupinaria, Oberth. (Et. Lep. v (2) 32, Pl. lxxxviii, Fig. 858), which is only known to me from Oberthür's Q figure and almost worthless description; perhaps a form. Differs in its smaller size, forewing with a conspicuous cell-dot, slightly more oblique and greyer postmedian line, rather better developed subterminal and traceable (highly oblique) antemedian, hindwing with termen slightly more bent, forewing beneath with strong cell-dot more strongly infuscated costal margin, a fuscous costal spot near apex and some irroration in cell, both wings beneath with the two lines slightly less obsolete. From *ocernaria*, Swinh., distinguishable *inter alia*, by the almost uniformly ochreous head (without the white lower half of face), blackish (not ochreous) antenna, greyer and much less sharp markings, rather more obliquely placed, without duplicating shade outside the postmedian, similaria like underside of the σ , obsolescence of the postmedian dots on SCs and R¹ and by the venation. In ocernaria the stalk of SC ^{1.2} of forewing is connected or anastomoses with C; in *similaria*, Swinh. (*Ann. Mag. Nat. Hist.* (8) xvi. 183, W. Sumatra) and its smaller, less angle-winged and more weakly marked replica *icuncula* SC¹ and SC² separate earlier and the former alone anastomoses with C. The hind tibia is dilated, though not so strongly as in similaria.

Htawgaw, undated, the type only. Hsipaw, North Shan States, allotype

Q in coll. Brit. Mus.

The Q, which was found mixed among ocernaria in the British Museum, does not seem to have had the subapical fuscous spot beneath, but is not perfectly fresh; otherwise agrees fully.

* 159. Myrteta fuscolineata, Swinh.

Myrteta fuscolineata, Swinh., Ann. Mag. Nat. Hist. (6) xiv. 137 (1894) (Khasis).

Htawgaw, 4-10 April 1923, 1 \, April-May 1923, 1 \, early July 1923, 1 \, Capt. Swann's three examples show considerable variation. The early \, has only the principal lines present, thus looking superficially a good deal like a small, poorly coloured *icuncula*; the other \mathcal{Q} is large and bright, with the supplementary (crenulate) lines all strong, the terminal line thick; the \mathcal{J} is intermediate in markings, all the lines being discernible, but fine and rather weak. The species combines the face of ocernaria with the structure (venation) and hindleg) of icuncula, but has the hindwing less bent than either of them.

Swannia, gen. n.

Face smooth, nearly flat. Palpus rather short, densely scaled, third joint very small, not distinct. Tongue present. Antenna in both sexes nearly simple. Pectus moderately hairy. Femora scarcely hairy. Hindtibia rather slender, both pairs of spurs unequal. Wing-scaling iridescent. Forewing with costa scarcely arched, apex acute, minutely produced, termen almost straight tornus pronounced; cell about $\frac{1}{2}$, DC straightish, subcostals crowded, SC $^{1/2}$ long-stalked, their stalk anastomosing slightly with C,R¹ separate, R² slightly before middle of DC, M1 stalked (sometimes only shortly). Hindwing with costa rather long, apex round prominent, termen almost straight, tornus sharp; cell about \(\frac{1}{2}\), DC little curved, C approximated to SC to about \(\frac{1}{2}\) cell, then rapidly diverging, SC2 just separate, R2 wanting, M1 stalked.

Type of the genus: Swannia marmarea, sp. n.

Presumably a derivative of Myrteta, but very distinct in shape and especially remarkable for the stalking of M1 of both wings.

* 160. Szvannia marmarea, sp. n. (Pl. 1, Fig. 16.)

강우, 34-36 mm. Face white, narrowly bright red-brown above. Palpus bright red-brown, first joint white beneath. Vertex and antenna bright red-brown. Body white, with a brown spot on shoulder. Foreleg red-brown on innerside.

Midleg with a brown spot on knee.

Forewing glistening white, the iridescence predominantly bluish, in some lights with an admixture of pink; sparse dark irroration visible with the lens; costal margin bright red-brown, with some dark metallic scales behind; a very minute blackish cell-dot; a postmedian dot on SM2 generally present; fringe tinged with brown. Hindwing uniformly iridescent white; fringe tinged with brown.

Underside similar, base of fringe darkened, hindwing with a rather thick dark terminal line, slightly interrupted at the veins, a little swollen between

Htawgaw, March 1923, 200, 200.

Tasta argozana, sp. n. (Pl. 1, Fig. 21.)

₹9, 24-27 mm. Face brown-black, edged below with metallic blue or green. Palpus beneath pale brownish. Vortex brown-black. Thorax and abdomen dirty white, the latter above clouded with grey except at extremity. Legs

whitish, tinged with brown, the anterior partly infuscated.

Forewing with SC' generally free, occasionally anastomosing at a point with C; white, tinged with pale brown, clearer at termen; basal area sprinkled with metallic scales; costal area in proximal half leaden-grey, sprinkled with metallic scales; cell-spot roundish, dark-grey; a grey median band immediately beyond or absorbing the cell-spot, copiously sprinkled with metallic (silvery or golden-tinged) scales; a brown, somewhat scorched-looking costal patch at apex, rounded off behind, about reaching R¹; a subterminal row of metallic spots, on the apical patch receding slightly from termen; fringe grey, tipped with metallic blue. Hindwing with the median band continued, its proximal edge shading off gradually basewards; cell spot

elongate, indistinct; subterminal shade anteriorly light-brown and narrow, posteriorly dark-mixed and broad, throughout marked with metallic scales, which generally form spots in the anterior cellules; on R3 a small circular black ocellus, ringed with pale brownish; fringe as on forewing.

Underside dirty white, with the dark markings feebly suggested; fringes

mixed with metallic blue,

Htawgaw, April-May 1923, 4 33, 12, June 1923, 4 33, 12, early July 1923, 13 (worn); Hpimaw Fort, June 1923, 2 33, 12, early July 1923, 2 33 (worn). Hampson's differentiation (Faun. Ind. Moths, iii. 139, 140) of Tasta and Bapta by the condition of 'vein 11' is invalid, as this varies in both genera; but Tasta may be tenable on the strong metallic scaling. The Rev. C. R. N. Burrows has compared the genitalia and confirms the close relationship

162. Bapta platyleucata (Walk.)

Acidalia platyleucata, Walk., List Lep. Ins., xxxv, 1628 (1866) (N. India). Htawgaw, March 1923, 1 \, June 1923, 1 \, early July 1923, 1 \, Hpimaw Fort, June 1923, 6 \, 12, early July 1923, 2 \, 3, 9-13 August, 1923, 1 \, 12. Distributed from Afghanistan through North India to West China.

* 163. Bapta aluta, sp. n. (Pl. 1, Fig. 17.)

8, 29-30 mm. Face and palpus dark brown, the face slightly rough-scaled, the palpus slender, with second joint appressed-scaled beneath, some scales above projecting forward. Vertex white. Thorax and abdomen white, irrorated above with grey. Fore and midleg partly infuscated.

Forewing rather short, termen very slightly curved, tornus pronounced; SC¹ free, SC² stalked, separating before SC⁵; white, densely and pretty evenly irrorated with grey; costal edge narrowly ochreous; cell-mark darker grey, slightly elongate; lines weak, grey; antemedian excurved anteriorly; post-median rather diffuse, recalling that of platyleucata, Walk., but more distally placed and more feebly incurved; subterminal thin, or only somewhat swollen about the veins, slightly less straight than in platyleucata, being a little curved behind middle; terminal line feeble, but sometimes developing slight veindots; fringe slightly mottled. Hindwing with termen a little straighter between R3 and tornus than in platyleucata; cell-mark as on forewing or rather weaker; two very feeble lines or shades beyond, much as in platyleucata but with the first (the postmedian) much more curved or bent behind middle.

Underside glossy, unmarked, rather more brownish (or pinkish) white than

in platyleucata.

Htawgaw, July 6, 1923, 2 & (including the type), August 1923, 2& Assam, Cherrapunji, July 1893, 1 & in Coll. Tring, Mus.

164. Bapta alba (Moore.)

Corycia alba, Moore, Lep. Coll. Atk., p. 261 (1888) (N. India). Hpimaw Fort, June 1923, 1 3. Range: Sikkim to West China,

> * 165. Bapta ectiptica, sp. n.

3, 32 mm. Near the preceding. Face rather more black-grey (less brown), beneath paler, but not so definitely white at lower extremity as in alba. Wings

slightly more elongate.

Forewing with costal and distal margins rather less curved; SC1 anastomosing with C; cell-dot wanting; the two brown-grey lines fairly distinct; the thicker, less firm substerminal also developed; distal half fringe smoky. *Hindwing* with termen between R¹ and tornus straightish, the costal margin appearing relatively elongate (but apex well rounded); postmedian line fine, fairly strong, terminating rather nearer tornus than in alba; subterminal shade developed except costally; fringe as on forewing.

Underside much as in alba except for darkened tips of fringes; forewing with cell-dot nearly as strong as in that species; postmedian line fine and weak, pretty evenly developed throughout.

Htawgaw, April-May 1923, the type only.

166. Bapta distans, Warr.

Bapta distans, Warr., Nov. Zool. i. 404 (1894) ('Japan'). Htawgaw, July 1923 6, 33, undated, 1 \, Hpimaw Fort, June 1923, 3 33. Range: North-west India to West China. Warren's type was probably from the latter locality, as the species is not otherwise known from Japan and there is internal evidence that in the early days of the Tring Museum one consignment of Western Chinese species was erroneously labelled Japan. On the differentiation of distans from alba see Seitz Macrolep. iv. 315.

* 167. Tanaoctenia haliaria (Walk.)

Geometra haliaria, Walk., List. Lep. Ins., xxii 518 (1861) (India). Htawgaw, April-May 1923, 2 P. August-September 1923, 1 3.

* 168. Nothomiza dentisignata (Moore.)

Geometra dentisignata, Moore, Proc. Zool. Soc. Lond., p. 636 (1867) (Darjiling).

Htawgaw, September-October 1923, 1 d.

* 169. Nothomiza viridis (Warr.)

Aplochlora viridis Warr., Proc. Zool. Soc Lond., p. 386, Pl. xxxi, Fig. 7 (1893) (Sikkim.)

Htawgaw, September-October 1923, 1 d.

The specimen is discoloured to yellowish, a tendency not noticed in any of the long series of the following.

* 170. Nothomiza ægriviridis, sp. n. (Pl. 1, Fig. 2.)

₹ 2, 25-29 mm. Face light reddish brown. Palpus short and slender; light brown. Vertex and base of antenna white: antenna simple. Thorax and base of abdomen above concolorous with wings; posteriorly and beneath white.

Forewing pale green, slightly variable, perhaps according to the degree of freshness; costal edge whitish; cell-dot black, extremely minute, sometimes scarcely discernible; terminal line brownish, extremely fine, not thickening anteriorly; fringe whitish, in proximal half tinged with cream-buff. Hindwing with termen weakly bent in middle; as forewing, but with cell-dot more distinct.

Htawgaw, August 22, 1922, 2 PP, June 1923, 3 33, July 1923, 5 33, 4 PP, August 1923, 6 33, 2 PP

Perhaps a form of obscuristrigata Wehrli (Iris., xxxvii. 66, t. 1. Figs. 7, 18), agreeing in size and shape, but without any trace of the lines or of the apical mark and probably of a duller grey-green hue. In any case different in colour from the greenish glaucous of Leech's *simpliciaria* (*Ann. Mag. Nat. Hist.* (6) xx. 239), the costal margin of forewing slightly less arched, termen rather less oblique, palpus perhaps not quite so heavily scaled.

* 171. Nothomiza cinerascens (Moore.)

Caberodes cinerascens. Moore, Lep. Coll. Ath., p. 261 (1888) (Darjiling.) Hpimaw Fort, June 1923, 1 \, \text{\text{2}}.

* 172. Nothomiza ithyterma, sp. n. (Pl. 1, Fig. 22).

¿, 36 mm. Closely related to costalis, Moore (Proc. Zool. Soc. Lond., 1867, p. 616), nearly agreeing in size with its Khasi race intensa, Warr. (Nov. Zool. iv. 120). Head and body coloured as in that species, body above suffused with dark grey. Antennal teeth somewhat slenderer, pointed at the extremities.

Forewing with apex slightly less acute than in costalis, the ground-colour truncate in cellule 7 about 1 mm from the apex, instead of running out to a point (commonly even produced to apex of fringe) as in *costalis*; pink, much suffused with dark grey, as in normal *formosa* Butl. or moderately suffused examples of *costalis*; the yellow costal edge underlined with bright red, especially in proximal 4, this again by a very dark line or shade; the projection of the yellow into cell slight, not triangular; costal patch just outside cell larger than in average *costalis*, but not so large as in *formosa*; apical (terminal) yellow restricted, not reaching R¹; a hindmarginal patch of pink proximal to middle, about reaching M; less defined ones subbasally and tornally; the narrow dark area between subbasal and central pink patches rather accentuated, oblique, suggesting the end of a thick antemedian line. Hindwing with termen straighter from SC2 to tornus than even in costalis; costal area white; the rest less clouded than forewing, but with the beginnings

of dark subbasal and postmedian lines (very narrow bands) at abdominal margin; termen and fringe dark.

Underside similar, but paler and more washed-out.

Htawgaw, March 20, 1923, the type only.

* 173 Plutodes warreni, Prout.

Plutodes warreni, Prout, Ann. Mag. Nat. Hist. (9) xi. 322 (1923) (N.-W. Himalayas).

Htawgaw, August 1923, 1 d.

P. warreni is now known to me also from Sikkim and the Khasis, though very much rarer in those localities than the allied costatus, Butl. The Htawgaw example and the only Khasi & known to me are very dark, with the posterior terminal yellow mark of forewing narrowed.

174. Peratophyga hyalinata (Koll.)

Idæa hyalinata, Koll. in Hügel, Kaschmir, iv. 491 (1848) (Masuri). Acidalia aerata, Moore, Proc. Zool. Soc. Lond., p. 643 (1867) (Darjiling). Htawgaw, April 4-10, 1923, 1 ♂ (ab.), July 1923, 1 ♀, August 1923, 1 ♀.

The 3 is a brightly golden-tinted aberration with the dark bands not very strongly developed. The species, which is generally distributed from North-West India to West China, is everywhere variable and it is pretty certain that totifasciata, Wehrli (Iris, xxxvii. 66, t. 1, Figs. 6, 7) from Central and East China is a race of it, as is also not improbably the case with venetia, Swinh. (Ann. Mag. Nat. Hist. (7) ix. 416) from the Malay Peninsula, Borneo, etc. and perhaps grata, Butl. (Ann. Mag. Nat. Hist. (5) iv. 438) from Japan.

* 175. Lomographa tenebrimedia, sp. n. (Pl. 1, Fig. 18.)

Q, 24 mm. Head and body concolorous with wings. Hindtibia with the spurs extremely unequal, the inner of each pair being long, the outer vestigial. Forewing with cell over \(^2_5\); the coincident subcostal (Sc \(^{1-2}\)) free; reddish ochreous-brown, with dark irroration, the tone similar to that of Pristoste gania trilineata, Moore (Proc. Zool. Soc. Lond., 1867, p. 642) or a little darker, antemedian line obsolete; postmedian pale ochreous, much as in trilineata, but less oblique than termen, posteriorly very faintly curved; median, on the other hand, dusky, crossing a black cell-dot; termen with minute dark interneural dots; fringe slightly paler. Hindwing with cell at least \(^2_5\); median shade just distal to cell dot; postmedian almost parallel with termen. Underside brighter, less irrorated; cell-dots and median shade strong; post-

median very indistinct, but followed at about 1 mm. distally by a narrow dark shade, which is moderately distinct on forewing, slight on hindwing; terminal

dots of forewing fairly large.

Laukhaung, March 10, 1923, the type only.

Superficially nearer to *Pristostegania trilineata* that to any other species which Hampson places in *Stegania* (*Lomographa*, Hb.), but with R² of forewing almost central, C of hindwing touching SC at a point, then diverging. It may be assumed that the d will prove it to belong to the section *Heterostegane*.

* 176. Chiasmia levata sp. n. (Pl. 1, Fig. 20,)

3, 19-23 mm.: 9, 23 mm. Group of *strigata*, Warr. (*Proc. Zool. Soc. Lond.*, 1893, p. 412, Pl. xxxi, Fig. 22). Face and palpus ochreous. Vertex pale ochreous, collar ochreous, thorax and abdomen white, more or less clouded

with pale ochreous-buff and dotted and spotted with blackish.

Forewing with termen fully as oblique as in strigata; white, with copious black irroration and strigulation, the ochreous suffusion much less strong than in strigata, chiefly represented in an oblique median stripe just outside the cell and a broader shade beyond; black cell-dot much less large than in strigata; lines macular, arising from enlarged costal spots, the postmedian more distally placed anteriorly than in strigata; fringe sharply and almost regularly chequered. Hindwing in proximal half (or more) predominantly white, copiously marked with black-grey, distal part coloured more as in strigata but still somewhat paler and more variegated; cell-dot almost as large as on forewing; subterminal markings sometimes developed much as in strigata, sometimes weaker.

Underside similar, the ochreous shades slightly paler and more diffused, the dark strigulation in part coarsened.

Htawgaw, April-May 1923, 3 33 (including the type), August-September, 1923, 8 33, 12; Hparé, September 1923, 2 33; Blackrock, June 1923, 1 3 (worn); Hpimaw Fort, June 1923, 1 3.

Probably nearest to pygmæaria, Leech (Ann. Mag. Nat. Hist. (6) xix, 339), but weaker-marked. Varies very little; the second brood may be slightly brighter than the first and the Hpimaw Fort specimen seems to have the dark subterminal clouds enlarged, but is too wasted to be described in detail.

177. Synegia suffusa (Warr.)

Parasynegia suffusa, Warr., Proc. Zool. Soc. Lond., p. 414 (1893) (Nagas).

Laukhaung, March 7, 1923, 1 3.

The specimen approaches submissa Warr. (Nov. Zool. i. 411, Khasis), which I take to be a form of this rather variable species; erythra, Hmpsn, to which Hampson (Faun. Ind. Moths, iii. 169) has sunk suffusa, is, however, distinct. Range: India, South China, Formosa.

* 178. Heterostegania nigrofusa, Warr.

Heterostegania nigrofusa, Warr., Proc. Zool. Soc. Lond., p. 415 (1893) (Sikkim).

Htawgaw, August 1923, 1 d.

The specimen is a modification—local or individual—of Warren's nigrofusa, larger, the median area less suffused, the distal more so, the dark postmedian patch much enlarged; still more unlike lunulosa, Moore, to which Hampson (Faun. Ind. Moths, iii. 170) has prematurely sunk it, than is Warren's type

* 179. Heterostegania thamia, sp. n. (Pl. 1, Fig. 10.)

39, 36-38 mm. Face ochreous below, bright rosy above. Palpus light brown, second and third joints suffused with grey. Crown yellowish in front, bright rosy behind. Collar yellowish. Postorbital rim tinged with rose-colour. rosy behind. Collar yellowish. Postorbital rim tinged with rose-colour. thorax and abdomen above yellowish, varied with roseate; ends of tegulæ and of patagia and base of abdomen bright rose; slight grey bands at ends

of first few abdominal tergites; body beneath pale.

Forewing, as in the genotype, with SC1 connected with C, SC2 long-stalked with SC³⁻⁵, anastomosing immediately (but shortly) with SC¹; pale yellow, very copiously irrorated or strigulated with rose-colour and more sparingly with dark grey, small, ill-defined spots of the ground-colour remaining in base of cellule 4 and as boundaries of the median area; cell-dot black; antemedian line obsolete; postmedian obsolescent, lunulate dentate, incurved between the radials, marked with black interneural dots behind R3; a narrow, very vague greyish shade shortly beyond the postmedian, connected with (or running into) an oblique anterior streak towards the apex; fringe pale yellowish, with slight rosy admixture and with black-grey spots opposite the veins. Hindwing concolorous, with similar cell-dot and postmedian and their attendant clear-yellow spots; an ill-defined dark-grey band or shade proximal to cell-dot; fringe as on forewing.

Underside pale buffy brown, irrorated and marked with dark grey; cell-dots black; postmedian macular, ill-defined, on forewing divaricating at R3, the proximal branch running obliquely inward towards the proximal shade of hindwing (which is, however, obsolete anteriorly to SC, though strong behind) the distal meeting the postmedian of hindwing; terminal line indicated; fringes

weakly spotted.

Htawgaw, August 1923, 1 &, 1 \, 2.

A slightly paler &, with rather larger cell-dots beneath—perhaps a racial modification but not so perfectly fresh as Capt. Swann's examples—is in coll. Joicey from Hunan, Central China (Pratt).

* 180. Crypsicometa homæma, sp. n.

3, 33-34 mm. Closely related to incertaria, Leech (Ent. Supp., p. 49, 1891,

Japan), possibly a race. Distinguished as follows:-

Forewing slightly narrower, more tinged with reddish, the colouring almost exactly as in particolor, Warr. (Nov. Zool., iii. 128); costal and terminal lines finely black-brown; apical patch whiter, more regularly long-oval.—Hindwing more sharply bicoloured, with the postmedian line straighter (neither crenulate)

nor sinuous) but forming an excessively slight inward curve, thus closely approaching the cell-dot; irroration on outer half more blackish, but so arranged as to leave almost clear a terminal patch between tornus and R¹, which is irregularly rounded proximally, about 3 mm. wide at its middle.

Htawgaw, early July 1923, 2 33.

* 181. Hypochrosis tinctaria (Walk.)

Decetia tinctaria, Walk., List Lep. Ins., xxvi. 1522 (1862) Q [? N. India]. Marcala obliquaria, Moore, Lep. Coll. Atk., p. 232 (1888) (Darjiling). Laukhaung, July 1923, 1 d.

A rather small and rather dusky specimen, but not difficult to match from

Sikkim or Assam.

Swinhoe (Cat. Lep. Het. Oxf. Mus., ii. 241), who rightly criticizes Hampson's chaotic 'hyadaria', considers that the present is the true hyadaria, Guen. Guenée's description, however, seems to me to point clearly to the larger, more fleshy-toned species which Walker described as abstractaria (List Lep. Ins., xxvi. 1485, and again—apparently by oversight and on the same type-specimen—xxxv. 1559) and Moore as irrorata (Lep. Coll. Atk., p. 232). H. tinctaria is perhaps the Indian (chiefly North Indian) race of a widely distributed species, represented on Ceylon by chlorozonaria, Walk (List Lep. Ins., xxii. 554)=galbulata, Feld. (Reise Novara, Lep. Het. t. cxxxiii, Fig. 20), Sumatra, Borneo, etc., by korndorfferi, Snell. (Tijd. v. Ent. xx. 73), Celebes by annulata, Pagenst. (Ent. Nachr., xxii, 52; Abh. Senckenb. Ges., xxiii. 456.)

182. Hypochrosis hyadaria, Guen. (?)

Hypochrosis hyadaria, Guen., Spec. Gen. Lep. x. 537 (1858) (Central India).

Laukhaung, 23 July 1923, 13.

This specimen is an ab. (or possibly race) of a rather smaller, rather narrower form, with coarser or darker irroration, which I am strongly inclined to agree with Swinhoe in separating from true hyadaria (= abstractaria, Walk., vide supra), but which has as yet no legitimate name, Swinhoe having misidentified it as ignivorata, Walk. Walker's lost type of ignivorata (List Lep. Ins., xxvi. 1754, Cherrapunji) was certainly, according to the description, the same species as his abstractaria (hyadaria). Both hyadaria vera and the present form (or relative) seem to be confined to North-east India and Burma; Central India', with Guenée—as I have pointed out elsewhere—is known to have signified the region of Sylhet (!)

* 183 Hypochrosis mixticolor, Prout.

Hypochrosis mixticolor, Prout in Seitz Macrolep., iv. 337, ft. 17 g. (1915) (Omei-Shan).

Htawgaw, June, 1923, 13.

* 184. Hypochrosis eurynota sp. n. (Pl 1, Fig. 14.)

♀ 39 mm. Face and palpus deep red, slightly mixed with black, palpus not so long as typical and rather more loosely scaled. Vertex and antennal shaft impure white; pectinations about 3. Body, purple-reddish, the abdomen very robust, paler than the thorax.

Forewing with costa strongly shouldered near base, apex minutely produced, termen strongly oblique behind; cell well over ½; SC1.2 shortly stalked, SC1 anastomosing with C and later with SC2; dull purple, irregularly shaded with dark-grey and white-grey; costal edge mostly brighter purple-red; base rather lighter and redder; a minute whitish cell-dot; a not very conspicuous red line (thicker and clearer anteriorly than posteriorly) from costa close to apex to hindmargin about 3 mm. from tornus, accompanied proximally by some ill-defined whitish maculation; some whitish terminal shading behind apex; fringe purple-red. Hindwing with termen slightly sinuous, tornus somewhat produced; rather paler purplish; a reddish, proximally dark-shaded postmedian line at \(^3\) abdominal margin and a broad dark-grey suffusion proximal thereto, all becoming obsolete about M¹ or R²; fringe as on

Forewing beneath slightly paler than above, but with costal margin more broadly purple-red; subterminal line obsolete, but with a broader purple-red patch marking its point of origin. Hindwing with the markings of abdominal

region vaguely indicated.

Htawgaw, April 4-10, 1923, the type only.

In the rougher palpus, rather less robust wings, the prominent tornus of hindwing, etc., this species is not a typical Hypochrosis; like mixticolor Prout, it suggests some possible affinity with Phalana. There is, however, much minor structural variation within the genus as understood by Hampson, as also within the closely allied *Sabaria* (*Prionia* of Hampson); indeed my repeated attempts to find any constant morphological difference between the two, as arranged by that author, have hitherto proved fruitless and I am inclined to think that Sabaria will have to be sunk or the grouping recast. H. mixticolor, eurynota and the muscicolor group (vide infra) possess in common a fringe of long scales descending from the front of the fillet over the upper part of the face, a feature shared by some of the Garaeus-Phalæna group; but I am not yet prepared to pronounce upon its distribution or its possible generic utility.

* 185. Hypochrosis ancylotoxa, sp. n.

Face with minute tuft below; red-brown, Palpus red-brown, 3, 30 mm. the terminal joint darkened. Vertex light violet-grey, the fillet more whitish, its projecting scales (vide supra) rather long. Thorax and abdomen con-

colorous with wings.

Forewing closely like that of H. muscicolor, Warr. (Proc. Zool. Soc. Lond., 1893, p. 407, Pl. xxxiii, Fig. 25), the coloration more ochreous-brown than in the figured \mathcal{Q} , but with slightly more vinaceous suffusion than in the described by Hampson (Faun. Ind. Moths, iii. 176); cell-dot white, a little larger than the black speck muscicolor. Hindwing with termen round-prominent at R³-M¹, thin, strongly sinuous so as to form a rounded excavation behind M2 and a pointed tornus; costal area broadly whitish, the rest nearly concolorous with forewing, slightly more ochreous outside than inside the postmedian line; celldot black; postmedian straight, as in muscicolor, not bent as in informis Warr. (Nov. Zool., iv. 120).

Underside similar or a little brighter; cell-dot of forewing black.

Htawgaw, early July, 1923, the type only. (A & f. om E. Pegu, 4,000-5,000 ft., March-April, 1890 (W. Doherty) and a \$\infty\$ from Bangkok, respectively in the Tring and the Hill Museums, evidently belong here and have developed the pair of spots outside the postmedian of hindwing, as in Warren's type 2 of muscicolor, which is therefore not a sexual distinction. All three species of the group seem variable, but there is no evidence in the Geometridæ that such difference in shape could be other than specific.

* 186. Anonychia grisea (Butl.)

Nadagara grisea, Butl. Proc. Zool. Soc. Lond., p. 172 (1883) [Simla]. Htawgaw, April-May, 1923, 1 ♀; Laukhaung, April-May, 1923, 1 ♂; Hparè,

August-September, 1923, 1 d.

A fairly common mountain species from North-West India to West China. Everywhere more or less variable, but tending to become darker and more strongly marked eastwards.

* 187. Anonychia diversilinea, Warr.

Anonychia diversilinea, Warr., Nov. Zool. iv. 101 (1877) (Sikkim). Htawgaw, April-May, 1923, 1 3.

* 188. Anonychia latifasciaria, Leech.

Anonychia latifasciaria, Leech. Ann. Mag. Nat. Hist. (6) xix. 225 (1897) (W. China).

Hpimaw Fort, September, 1922, 1 ♀.

The specimen is very worn but appears to be a rather dark, rather weakly marked form of this species rather than a form of its Indian relative lativitta, Moore.

* 189. Heterolocha talconaria (Walk.)

Aspilates falconaria. Walk, List. Lep. Ins., xxxv. 1665 (1866) (N. India). Htawgaw. June, 1913, 1 & July, 1923, 12 & 3, 99; Hpimaw Fort, June, 1923, 1 & Hparè, August-Spetember, 1923, 1 & Hampson only records this species from N.-W. India and Sikkim, but it is

well known also from Bhutan and Assam.

* 190. Heterolocha patalata, Feld.

Heterolocha patalata, Feld., Reise Novara, Lep. Het., t. exxxii. Fig. 9 (1875) (Rampur, Himalayas).

Htawgaw, May-June, 1923, 1 2, undated, 1 3; Hpimaw Fort, August,

1923, 1 ♀.

Very variable; the Htawgaw \(\text{is a fine bright green ab.} \)

191. Heterolocha segregis sp. n. (Pl. ii, Fig. 2.)

Q, 33 mm. Head and body whitish drab, irrorated with dark grey. Palpus, as is patalata, Feld., very long, the terminal joint even somewhat longer than

in that species. Antenna with minute ciliation.

Forewing with costa arched throughout, SC¹ from base of stalk of S.C. 2.5.3.4, anastomosing with C; whitish drab, with rather sparse black-grey irroration and strigulation; a very small black cell-dot; proximal area weakly darkened, bounded by a narrow, bilobed, darker band; an equally narrow, very irregular outer band, chiefly expressed in a quadrate costal spot which reaches R1, a larger spot between hindmargin and M2 and a weaker more distal one between the radials; a narrow dark terminal border, tapering to a point at each end. Hindwing more whitish, with weak irroration; cell-dot very slight; postmedian band showing in a spot at abdominal margin; termen faintly and narrowly dark-shaded.

Underside more tinged with red-brown, especially on hindwing; irroration dark and coarse, especially on hindwing; markings of upperside indicated, the postmedian on forewing only distinct in the costal spot, on the hindwing. however, indicated throughout, sinuous; dark border of hindwing distincter

and less narrow than above.

Htawgaw, beginning of July 1923, the type only.

192. Loxaspilates obliquaria (Moore.)

Aspilates obliquaria, Moore, Proc. Zool. Soc. Lond., p. 649 (1867) (Sikkim). Htawgaw, April 4-10, 1923, 1 &

Range: Afghanistan, North India, West China.

* 193. Opisthograptis molleri Warr.

Opisthograptis molleri, Warr., Proc. Zool. Soc. Lond., p. 403, Pl. xxxi, Fig. 12 (1893) (Sikkin;)

Htawgaw, April-May 1923,1 &, Hparé, August 1923, 1 d. Previously known to me from Masuri, Sikkim and Assam.

* 194. Opisthograptis swanni, Prout (Pl. i. Fig. 13.)

Opisthograptis swanni, Prout, Ann. Mag. Nat. Hist. (9) xi. 314 (1923) (Hparé).

Hparé, August 29, 1922, the type only.

Throughout the collecting season of 1923, and especially when he revisited Hparé about the anniversary of its capture, Capt. Swann kept a vigilant lookout for further specimens of this very fine species, but without result.

* 195. Corymica specularia (Moore.)

Caprilia specularia, Moore, Proc. Zool. Soc. Lond., p. 649, Pl. xxxiii, Fig. 11 (1867) (Bengal).

Hpimaw Fort, June 1923, 2 & August 14-18, 1923, 2 & .

It is not at present safe to quote any localities beyond the North-east Himalayas as previously known for this species. Hampson (Faun. Ind. Moths, iii, 186) has, according to his wont, merged several distinct 'forms' (probably in part species) from South India, North-West India and Japan. Even Capt. Swann's captures may indicate a racial tendency, the 'apical patch' of forewing being still more 'obsolescent' than in the Sikkim form. One of the August specimens is a colour-aberration, more suffused with orange.

* 196. Corymica immaculata, Warr.

Corymica immaculata, Warr., Nov Zool. iv. 116 (1897) (Sikkim).

Htawgaw, early July 1 \, 1923.

A scarce species, previously only recorded from Sikkim and Bhutan.

* 197. Xenographia adustata (Moore.)

Epione adustata, Moore, Lep. Coll. Atk., p. 229, Pl. viii, Fig. 20 (1888) (Khasis).

Htawgaw, April-May 1923, 1 d.

198. Callerinnys obliquilinea (Moore.)

Epione obliquilinea, Moore, Zep. Coll. Atk., p. 229 (1888) (Darjiling.) Htawgaw, June 2 & 1923, August 1923, 1 &. Range: Sikkim to Tonkin.

* 199. Nadagara epopsioneura, sp. n.

d, 33 mm. Head, collar and tippets bright brown, somewhat reddish. Thorax, abdomen and legs more flesh-colour, weakly clouded with brown.

Hindtibia not dilated.

Foreving rather narrow; termen scarcely crenulate anteriorly, almost smooth posteriorly, obliquely curved; reddish fawn-colour, with the veins darkened; costal edge spotted and dotted with deep brown; cell-dot moderate; lines deep brown, finely edged on reverse sides with white; antemedian from SC at $\frac{1}{3}$ to hindmargin at $\frac{1}{3}$, very strongly excurved but with no actual angle; postmedian from costa about 3 mm. from apex, a little excurved at first, then almost straight to hindmargin nearer to antemedian than to tornus; indications of an irregular whitish, proximally dark-shaded sub-terminal; terminal line continuous. *Hindwing* with termen scarcely waved, a very slight (scarcely noticeable) excision between the radials; costal area whitish; the rest concolorous with forewing; cell-mark slightly elongate; postmedian line continued from forewing, almost straight; traces of subterminal and its dark shading; terminal continuous.
Underside (especially of forewing) rather more tinged with ochreous;

nindmarginal area of forewing pale; both wings with grey strigulate, rather elongate cell-mark and slender postmedian and terminal lines, the postmedian of forewing as above, that of hindwing excurved anteriorly, straightish

from R3.

Laukhaung, March 10, 1923, the type only.

A \$\text{Q}\$ from the Naga Hills, rather larger but otherwise identical, in Coll. British Museum.

* 200. Luxiaria tephrosaria (Moore.)

Acidalia tephrosaria, Moore, Proc. Zool. Soc. Lond., p. 643 (1867) (Bengal). Htawgaw, April-May 1923, 17, July 1923, 12, undated, 12.

The two QQ belong to the common aberration with a roundish black postmedian spot on SM2 of the forewing; the & lacks this spot.

Range: Kulu, Sikkim, Bhutan, Assam.

201. Luxiaria mitorrhaphes, Prout.

Luxiaria mitorrhaphes Prout, Nov. Zool., xxxii. 64 (1925) (Nagas).

Htawgaw, June 1923, 1♀, early July 1923, 1 ♂.

The d belongs to the aberration with an irregular black postmedian spot between M² and hindmargin of the forewing, analogous to the aberration of tephrosaria mentioned above. For a fuller discussion of the species of this group, see my article in the 'Novitates' (xxxii. 62-64).

Range: Sikkim to West China, Formosa.

202. Luxiaria amasa fasciosa, Moore.

Luxiaria fasciosa Moore, Lep. Coll. Atk., p. 254 (1888) (Darjiling).

Htawgaw, August 1923, 1♀.

Ibelieve amasa, Butl. (Ann. Mag. Nat. Hist. (5) i. 405, Japan), fasciosa Moore, (N. India) and fulvirascia, Warr. (Nov. Zool., i, 440, Sumatra) to be races of a single species, the first two, indeed, scarcely allowing of a rigid differentiation, as they seem to intergrade in West China and perhaps on Formosa.

* 203. Krananda orthotmeta, sp. n. (Pl. ii, Fig. 1)

3, 40 mm. Head and body concolorous with wings. Foretibia blackened on innerside, tarsus in part spotted with black. Mid and hindleg marked with black, especially at the joints, the spurs, and on tarsi, the hindfemur and tibia

each with a conspicuous spot in middle.

Forewing shaped nearly as in oliveomarginata Swinh. (Ann. Mag. Nat. Hist. (6) xiv. 139), the angle at end of R³ rather stronger; SC¹ cannote with SC³⁻⁵ (probably variable, as in oliveomarginata); colouration much as in the palest, most ochreous-toned examples of that species; markings also similar, but weaker; postmedian line almost straight, the shade beyond somewhat rufescent, comparatively narrow, a great part of the terminal area being almost of the ground colour, merely a little more rufescent about the radials; some red-brown subterminal spots from costa to SC⁵, in cellule 5 and from M^2 to hindmargin; fringe mostly tipped with black. *Hindwing* similarly with the tooth at R^3 accentuated; colour and markings much as on forewing; postmedian line less straight; fringe as on forewing.

Underside similar.

Hpimaw Fort, August 9-13, August 1923, the type only.

Quite near oliveomarginala, but with the paler tints and the straight postmedian line superficially recalling the very differently shaped latimarginaria. Leech (Seitz Macrolep. Pl. iv, 19 b).

*204. Loxotephria perileuca, sp. n. (Pl. ii, Fig. 5). Closely related to olivacea Warr. (Nov. Zool. xii. 414). The pale, almost patternless areas (of forewing beneath and hindwing above) rather more extended, probably betokening a somewhat different resting posture. Forewing slightly narrower, darker, the white lines more sharply expressed. Hindwing with postmedian line less straight (narrowing and slightly curving, first outward and then inward, in approaching its anterior evanescence).

Laukhaung, July 1923, the type only.

* 205. Semiothisa ageta, sp. n. (Pl. ii. Fig. 15).

over 1½; rufous, dark-mixed, at base pale-yellow. Vertex rufous. Antenna with fascicles of very long cilia. Thorax and abdomen pale yellow, in places slightly mixed with rufous. Legs pale, with patches of blackish scales at ends

of tibiæ; hindtibia not dilated.

Forewing with termen faintly crenulate from apex to R3, at R3 slightly bent, thence almost straight; no true fovea, but SM2 near base appreciably curved and thickened, the usual thinly-scaled patch behind it accentuated; SC¹⁻² coincident, connected by weak bar with C; pale yellow, very slightly irrorated with rufescent scales; slight dark marking at costa; a small black cell-dot; a thick, not very sharply defined, obliquely curved antemedian line not quite reaching the costa, bounding some very slight basal suffusion (exaggerated by photography); postmedian line almost straight; distal one-third bright red-brown, mixed in part with violaceous, containing some small ochreous spots (the rounded one between the medians more conspicuous than in the photograph) and a blackish cloud between R3 and M2 just outside the rounded spot; a fainter curved line running close to the postmedian between R¹ and M¹ but receding anteriorly and posteriorly; fringe rufous, with some glittering paler scales. *Hindwing* with apex almost rectangular, 'tail at R³ strong; yellow in proximal half, bright brown, much suffused with violaceous, in distal; a faint dark postmedian boundary-line; cell-dot very minute; terminal area slightly dark-clouded in anterior half; a weak oblique brown half-line from tornus.

Underside similar, but with the yellow area rather more strongly and darkly speckled, the antemedian line of forewing grey, the postmedian of both wings less sharp than above, edged with brown proximally, the markings on the

distal area a little strengthened.

Blackrock, June 1923, the type only.

The most gaily coloured Semiothisa yet known.

* 206. Semiothisa khasiana (Moore)

Gonodela khasiana Moore, Lep. Coll. Atk., p. 262 (1888) (Khasis). Laukhaung, March 10, 1923, 1 d.

The specimen is aberrant in some details, the most noteworthy of whichthe slightly less obliquely placed antemedian of forewing-might suggest that 34

it is a separate species; but as the structure and most essential features agree I leave it here.

A fairly common North Indian species, with a Malayan race vehemens, Prout (Nov. Zool, xxxiii. 23).

* 207. Semiothisa monticolaria (Leech)

Macaria monticolaria, Leech, Ann. Mag. Nat. Hist. (6) xix. 308 (1897); Seitz Macrolep. iv, Pl. 18 f. (1915) (Omei-Shan).

Langyang, July 1923, 1 3.

A smaller, stronger-marked aberration or race. It is, however, just possible that the supposed species, of which Leech's type remains unique in the British Museum, is itself a strikingly differentiated form of the Indian effusata, Guen. (Spec. Gén. Lép. x. 87); the Langyang example would be in one or two respects slightly intermediate, though still very far from normal effusata.

* 208. Semiothisa clivicola, sp. n.

d, 41 mm. Near the preceding species. Structure, so far as studied, the same, antennal joints not projecting, ciliation about 1, hindtibia with hairpencil, fovea well developed, forewing with SC 12 coincident, free, DC 2 inbent before origin of R2. Second and third tergites of abdomen with distinct paired blackish spots. Forewing appreciably narrower than in monticolaria, with termen more bent in middle, nearly (but not quite) as extreme in shape as in avitusaria, Walk; rather darker than in monticolaria, rather sharply marked, the antemedian and median lines rather more oblique, the shadowy line which represents the postmedian of the underside better developed, not meeting the exangled postmedian until close to hindmargin, the angle of this latter postmedian less blackened, the duplicating line outside it less complete, more macular. Hindwing also suggesting the shape of that of avitusaria of, only with the teeth slightly less extreme. Underside with the dark borders heavier, more smoky, recalling very dark-bordered avitusaria, but with the pale terminal patches of forewing largely obliterated, even that at apex small.

Laukhaung, July 1923, the type only. A from Ding Manon, West China, stands with monticolaria in Coll. British Mus.; one each from the Khasis and the Nagas, rather large and bright, are unnamed in Coll. Tring Mus.

* 209. Semiothisa subalbataria (Swinh.)

Gubaria subalbataria, Swinh, Proc. Zool. Soc. Lond, p. 428 (1889) (Nilgiris). Laukhaung, April-May 1923, 233.

One is a dusky aberration, with the subapical dot of forewing wanting on the underside, etc.

The species is widely distributed in India.

* 210. Semiothisa myandaria (Walk.) (?)

Macaria myandaria, Walk, List Lep. Ins., xxvi. 1649 (Canara).

Htawgaw, September-October 1923, 1 d.

This troublesome group has already been the subject of some investigations, but they are not yet completed. Walker's type has lost its antennæ, but the genitalia, kindly compared by Mr. W. H. T. Tans with those of Hampson's type of Gonodela triangulata (Ill. Het., viii. 112), prove that the union proposed in Faun. Ind. Moths iii. 205 is quite incorrect. A fairly common Khasi species, however, with non-serrate of antenna, shows but a minor difference in the genitalia, which may prove racial only, from those of Walker's type, and it is to this Khasi 'myandaria' that the Htawgaw specimen seems to belong, though it is an extremely dark aberration or local form.

* 211. Orsonoba æthocrypta, sp. n. (Pl. ii, Fig. 14)

A, 40 mm. Face, palpus, antennal shaft and one side of femora red, spotted with yellow. Vertex, thorax and abdomen concolorous with wings, the pectus mixed with red.

Forewing with terminal tooth strong, tornal lobe pronounced; S.C.^{1.2} stalked; olive-green, clouded with olive-brown and with pale lilacine shades at base, at tornus, proximal to the antemedian line and as a linear distal edging to the postmedian; a paler, yellow-green patch in median area between cell-spot and hindmargin; markings much as in *O. clelia* Cram. or *O. variaria* Leech (*Seitz Macrolep.*, iv. 326, Pl. 16 b, as *Phalæna*); a white sub-terminal dot in front of R'. *Hindwing* with the teeth in termen pronounced; post-

median line not crenulate, subterminal feebly indicated.

Underside predominantly red irrorated with yellow; forewing with costal margin partly buff, dark-dotted; ill-developed lilacine shades in distal part of cell, between postmedian and subterminal (except between the radials) and at tornus; cell spot large, black, the pale band behind it white and buff (continued as an amorphous costal mark on hindwing); sub-terminal line black. Hindwing with similarly placed lilacine shades, the outer one not interrupted at radials; cell-spot small.

Hpimaw Fort, August 9-13, 1923, the type only.

A few other examples have been detected or received since the above description was prepared, showing that the species occurs at Masuri, Sabathu and Solun and in Sikkim (Gopaldhara) and is—like most of the withered leaf species—variable in colouring, the underside rarely so bright as in the type. It may perhaps prove a form of *variaria* Leech; Leech's unique type has the tornal lobe of forewing folded under, hence overlooked by the artist for Seitz.

212. Petelia vexillaria (Guen.)

Pachydia vexillaria, Guen., Spec. Gén. Lép. x. 138 (1858) (Borneo). Wansong, 11 miles East of Myitkyina Plains, January 10, 1923, 1 J.

An extremely purple grey clouded aberration.

This species, No. 3275 in Hampson's Faun. Ind. Moths iii. 217, is very widely distributed in the Indian and Malayan Subregions. If there are separable races the name of capitata Walk, can be utilized for the Indian. Earlier misidentifications were corrected by Swinhoe (Tr. Ent. Soc. Loud. 1902, p. 611) and finally laid to rest by Oberthur's figuring the type specimen (Et. Lép. xx., Pl. dlvii. Fig. 4778).

213. Syrrhodia lutea (Stoll)

Phalæna Geometra lutea Stoll in Cram., Uitl. Kap. iv. 157 and 250, t. ccclxx. Fig. C, D. (1781) (Java).

Myitkyina, January 6, 1923, 1 3.

Belongs to the pinkish aberration (nearly *ennomaria* Guen). The species is distributed through North India, Malaya, etc., and has close relatives in the greater part of the Indo-Australian Religion.

214. Anthyperythra hermearia Swinh.

Anthyperythra hermearia Swinh., Tr. Ent., Soc. Lond. p. 485, Pl. xix, Fig. 9 (1891) (Khasis).

Htawgaw, April 4-10, 1923, 1 &; Hpimaw Fort, August 9, 1923, 1 \, 2.

Both have the blotch of the forewing broad; the Q is otherwise quite normal, the d small and rather aberrant.

* 215. Aspitates trilinearia (Leech)

Loxaspilates (?) trilinearia, Leech, Ann. Mag. Nat. Hist. (6) xix. 235 (1897) (Wa-Shan).

Htawgaw, April-May 1923, 1♀.

Only Leech's type of this very distinct species hitherto known, likewise a Q.

* 216. Psyra spurcataria (Walk.)

Hyperythra spurcataria, Walk., List Lep. Ins., xxvi. 1498 (1862) (Darjiling). Hpimaw Fort, June 1923, 13.

The specimen belongs to the dark form. The species is known from the North-West Himalayas Sikkim, Assam and Siam.

217. Fascellina chromataria Walk.

Fascellina chromataria, Walk., List Lep. Ins., xx. 215 (1860) (Ceylon).

Hpimaw Fort, August 14-18, 1923, 17.

Common and widely distributed, though probably some of the localities enumerated by Hampson (Faun. Ind. Moths, iii. 225) may produce local races or representative species.

* 218. Fascellina plagiata (Walk.)

Geometra plagiata, Walk, List Lep. Ins.. xxxv. 1601 (1866) (Sikkim). Htawgaw, April 4-10, 1923, 13, July 1923, 233; Laukhaung, March 9, 1923, 1 &.
The Laukhaung specimen is a small ab., with the underside of the hindwing

green instead of yellow.

This is another rather common species, from North India to the Malay Peninsula and Java.

* 219. Fascellina inornata, Warr.

Fascellina inornata, Warr., Proc. Zool. Soc. Lond., p. 399 (1893) (Sikkim).

Htawgaw, July 1923, 1 d.

Hampson (Faun. Ind. Moths, iii. 225-8) has sectionized this genus by shape, a scheme which would have been very serviceable had he not stultified himself by one or two errors of observation. The present species has an excision (though small) at the tornus of the forewing and should therefore be in Sect. II, not Sect. IV, and fuscoviridis, Warr. (Nov. Zool., iii. 320, Khasis), which Hampson (Journ., Bombay Nat. Hist. Soc., xi. 718) has numbered '3298 a', thereby placing it in Sect. I, has exactly the same shape, being in fact, as I believe, nothing more than a colour-form of inornata.

220. Leptomiza calcearia (Walk.)

Hyperythra calcearia, Walk., xx. 132 (1860) (sine loc.) Hkamkawn, February 8, 1923, 12; Laukhaung, March 10, 1923, 12.

221. Ocoelophora lentiginosaria (Leech)

Collix lentiginosaria, Leech, Ent. Supp., p. 55 (1891) (Japan). Hpimaw Fort, September 18, 1922, 12; Htawgaw, July 1923, 13. The Hpimaw specimen is very dark, too worn to say much about, but

apparently conspecific with the Htawgaw 3, which is a small example of the widely distributed *lentiginosaria*. The Khasi form, which I erroneously called maculifera (Seitz Macrolep., iv. 328) is perhaps racially separable, in which case the Burmese examples would go with it. More material is wanted.

* 222. Ocoelophora agana, sp. n. (Pl. ii, Fig. 16).

of, 31 mm. Head and body concolorous with wings. Face mixed with black. Forewing with termen smooth; Sc¹ free; pale grey, only at base of costa slightly more rufescent (extreme costal edge here blackened); sparse dark irroration, least sparse in proximal area; antemedian line consisting of large blackish dots on veins and folds, only weakly outbent in cell; cell-dot obsolete; median line only developed from M² to hindmargin, thickened posteriorly, angled outward on SM²; postmedian consisting of costal mark and vein-dots, minutest on R², R³ and M¹; radial and posterior spots beyond about as in the allies; terminal spots very weak, only discernible anteriorly. Hindwing very feebly (scarcely) crenulate; a small cell-dot; median shade represented by patches of irroration at both margins; postmedian vein-dots large on C and SC², then small and weak, slightly connected by a line posteriorly.

Underside similarly marked; the rufous anterior flush of forewing (common

in the genus) rather extensive but not intensive.

Hpimaw Fort, early July 1923, the type only.

Distinguishable by its smooth termen, weak markings and more than usually distal position of median shade.

* 223. Gonodontis bilinearia (Swinh.)

Crocallis bilinearia Swinh., Proc. Zool. Soc. Lond., p. 423 (1889) (Kulu).

Kangfang, September-October 1923, 1 d.

The specimen is coarsely irrorated, agreeing with a d from Jalauri Pass and (except in its less bright ochreous colour) with a 3 from Kujiar and a Q Goorais Valley, all in Coll. Brit. Mus. The species, which is otherwise known to me from Sikkim and the Nagas, is moderately variable and possibly embraces a mixture.

* 224. Gonodontis acutaria (Leech)

Crocallis acutaria Leech, Ann. Mag. Nat. Hist. (6) xix. 221 (1897) (Chang Yang).

Hpimaw Fort, August 9, 1923, 1 &, August 14-18, 1923, 1 &.
May prove to intergrade with heydena, Swinh. (Tr. Ent. Soc. Lond., 1894, p. 203), from the Khasis. I have differentiated another race (?) from the North-West Himalayas as contaminata (Seitz Macrolep. iv. 331, Pl. 16g).

* 225. Gonodontis insulata (Bastelb.)

Odontopera insulata, Bastelb., Ent. Zeit. (Stuttg.) xxii. 77 (1909) (Formosa). Gonodontis variegata, Wileman, The Entom. xliii. 348 (1910) (Formosa).

Htawgaw, September 16, 1922, 1 d.

A variable species. I believe—but do not yet feel entirely confident—that a dark of from Chungking (Szechuan) is conspecific with it and I associate with this latter the Htawgaw specimen, which is a pretty ab., of a light violet-grey tone, with the median area rather narrowly but brightly ochreous. The excision is the termen of the forewing appears slightly less deep than in the typical Formosan examples.

* 226. Garæus specularis Moore

Garæus specularis, Moore, Proc. Zool. Soc. Lond., p. 623, Pl. xxxii, Fig. 3 (1867) (Sikkim.)

Htawgaw, September 16, 1922, 1 2.

* 227. Garæus cruentatus Buti.

Garæus cruentatus, Butl., Ann. Mag. Nat. Hist. (5) vi. 224 (1810) (Sikkim). Htawgaw, July 1923, 1 3.

* 228. Garæus apicata (Moore)

Auzea apicata, Moore, Proc. Zool. Soc. Lond., p. 617 (1867) (Sikkim).

Htawgaw, July 1923, 4 & ; Hpimaw Fort, August 9, 1923, 1 &.

Range: North-West India to Burma. I have described (Arch. Nat., 77A, 10, p. 290) a race from Formosa.

* 229. Pseudomiza argentilinea eugraphes Prout

Pseudomiza argentilinea eugraphes, Prout, Ann. Mag. Nat. Hist. (9) xi, 320 (1923) (Htawgaw).

Htawgaw, August 22, 1922, the type of only.

* 230. Pseudomiza cruentaria (Moore)

Cimicodes cruentaria, Moore, Proc. Zool. Soc. Lond., p. 616 (1867) (Bengal). Htawgaw, early July 1923, 2 & J., 1 \, September-October 1923, 1 \, .

The late specimen belongs to the form flavescens Swinh. (Ann. Mag. Nat. Hist. (7) xvii, 284) = serinaria Th.-Mieg (Misc. Ent. xxii, 43), (syn. n.). On the range and variation I have a brief note in Seitz's Macrolepidoptera, vol. iv, p. 328.

* 231. Pseudomiza castanearia (Moore)

Cimicodes castanearia, Moore, Proc. Zool. Soc. Lond., p. 616, Pl. xxxii, Fig. 1 (1809) (Sikkim).

Htawgaw, October 14, 1923, 1 d.

* 232. Polyscia ochrilinea (Warr.)

Polyscia ochrilinea, Warr., Nov. Zool. iii, 148 (1896) (Khasis). Laukhaung, March 6, 1923, 1 d.

* 233. Auaxa kaluga Swinh.

Anaxa [ex. err.] kaluga Swinh., Ann. Mag. Nat. Hist. (7) vi. 308 (1900) (Jaintia Hills).

Hpimaw Fort, June 1923, 1 ♀.

The specimen is heavily marked, like cesadaria, Walk. (List Lep. Ins., xx, 271), of which kaluga may be a race, the chief difference being in the postmedian line; cesadaria extends from Japan to West China, kaluga is known from the Khasis and I have one Q—also slightly transitional towards cesadaria—from Vrianatong, Tibet.

* 234. Gnophos cinerea (Butl.)

Pseudasthena cinerea, Butl., Ill. Het. vii. 108, Pl. cxxxvi, Fig. 13 (1889) (Dharmsala).

Htawgaw, August-September 1923, 1 &; Hpimaw Fort, June 1923, 1 \, A fairly common mountain species, Kumaon, Sikkim, Assam; in West China represented by *lilliputata*, Pouj. (Ann. Soc. Ent. Fr., 1895, p. 308, Pl. vi. Fig. 7, 7a).

* 235. Gnophos approximaria Leech

Gnophos approximaria, Leech, Ann. Mag. Nat. Hist. (6), xix. 327 (1897) (W. China).

Fenshulling Pass (4 miles from), early July 1923, 1 \(\sigma\).

* 236. Ctenognophos methoria, sp. n. (Pl. II, Fig. 12)

3, 62-64 mm. Head blackish brown; vertex with some pale admixture. Antenna pectinate to slightly nearer the apex than in the allies (66 or 67 pectinations, reckoning to the last definitely projecting tooth), the branches light reddish brown. Thorax and abdomen concolorous with wings. Hindtibia not dilated. Wings shaped as in ventraria Guen. (Spec. Gen. Lep. ix. 294).

Forewing with SC¹ shortly stalked with SC², anastomosing with C; deep plumbeous grey (in the darker ab. almost black), with a rather ill-defined pale, brown-mixed area corresponding almost exactly to the slightly more ochreous area of ventraria, but a little ampler in its triangular costal part; this area, as in ventraria, marked with small dark strigulæ (which in the middle part tend to break up into dots) and with some slight brown shading on the veins, at the edge of the median shade and towards the apex; cell-mark elongate; lines crenulate, black, both about as in eolaria, Guen. (Spec. Gên. Lêp. ix. 294), but not arising from costal spots, the postmedian slightly more distally placed; subterminal pale line obsolescent, broken into spots; terminal dark line scarcely differentiated; fringe dark, with a faintly paler line at base. Hindwing almost entirely clouded with dark plumbeous grey; cell-dot indicated; a slight cloudy median shade beyond postmedian line as in eolaria, but slightly more distally placed; subterminal and terminal as on forewing. Underside grey, with some dark irroration; both wings with black cell-mark

Underside grey, with some dark irroration; both wings with black cell-mark (on forewing elongate) and postmedian vein-dots, scarcely connected by a fine and faint line; an ill-defined dark smoky distal band, darkest proximally to the subterminal, well separated from the postmedian, on forewing leaving free a small quadrate apical patch, on hindwing weak and narrow, subterminal,

almost obsolete in posterior half.

Hpimaw Fort, September 18, 1922 (type), September 24, 1922 (paratype). An interesting link between *ventraria* and *eolaria*, though larger than either.

* 237. Enantiodes consanguinea, sp. n. (Pl. ii, Fig. 10.)

3, 36 mm. Close to the genotype, stellifera, Warr. (Nov. Zool. iii. 133)

possibly a remarkable aberration of it.

Slightly broader winged, median line of forewing and postmedian of both wings more distally placed, the postmedian slightly less sinuate, the white subterminal spot of forewing obsolescent.

Fenshuiling Pass, early July 1923, the type only.

238. Ectropis conjunctaria (Leech) (?).

Boarmia conjunctaria, Leech, Ann. Mag. Nat. Hist. (6). xix. 344 (1897) (Ta-chien-lu.)

Htawgaw, early July 1923, 1 ♀.

Provisionally regarded as a small dark form of this species, or at least of the $\mathcal Q$ which Leech, not quite convincingly, mates therewith. Cloudy dark borders beneath—especially on forewing—more strongly developed than in Leech's $\mathcal Q$.

239. Ectropis nigrosparsa, Wileman and South (form?)

Ectropis nigrosparsa Wileman and South, the Entom. 1, 54 (1917) (Formosa). Hpimaw Fort, June 1923, 1♀.

Another provisional determination, the specimen being rubbed, the & wanting. In any case not closely like the Formosan type.

240. *Ectropis* sp. (?)

Hparè, 12, September 1923.

I at first thought this specimen, also rubbed, might possibly represent a second-brood form of the preceding, but the palpus seems shorter and darker and SC1.2 of the forewing are short-stalked, not—as in that separate.

* 241. Ectropis cyclophora (Hmpsn.)

Boarmia cyclophora, Hmpsn., Journ., Bombay Nat. Hist. Soc., xiv. 504 (1902)

Hpimaw Fort, August, 9-13, 1923, 1 d.

So far as I am aware this is only the second known specimen of the species.

* 242. Ectropis chrysoteucta, sp. n. (Pl. 77, Fig. 22).

2, 36 mm. Head buff, mixed with bright golden vellow. Palpus rather short, predominantly blackish fuscous. Antenna minutely pubescent; buff, dark-spotted. Thorax above predominantly golden yellow; abdomen above varied with whitish buff, golden yellow and dark fuscous. Foretibia, foretarsus and midtarsus darkened, with pale spots at ends of joints;

hindtarsus more slightly darkened.

Forewing broad, termen curved, anteriorly scarcely oblique; SC 1.2 coincident, stalked with SC 3-5; bright golden yellow, with black irroration; markings black; cell-spot slightly elongate; antemedian bent outward at both folds, inward at SM ²; median well beyond cell-spot, distinct at costa, then rather deeply dentate but almost obsolete, rather near the postmedian; postmedian spotted on veins, subobsolete between; a dentate subterminal indicated by a sprinkling of whitish scales and by some black irroration, especially proximally; this irroration develops into a spot at R³-M¹ and smaller and weaker ones at costa and behind M²; termen with black interneural spots; fringe weakly spotted opposite the veins. *Hindwing* ample; termen scarcely crenulate except in middle, a slight curve inward between the radials; concolorous with forewing; cell-spot rather larger; median line just proximal to it, straightish to fold, then rather more oblique outward; postmedian slightly incurved between R^3 and M^2 ; subterminal appearing double-or broadened and with some black spots in its middle.

Underside glossy greyish, with a slight fleshy tinge; cell-spots strong; median line present on both wings, that of forewing only just beyond cellspot; postmedian of both wings marked by dots on the veins; distal area

broadly, but not solidly, suffused with dark smoke-grey.

Htawgaw, April-May 1923, the type only.

(To be continued.)